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EXAMINER	
SCHNIZER, RICHARD A	
ART UNIT	PAPER NUMBER
1635	

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

3-M.

Office Action Summary	Application No.	Applicant(s)	
	09/855,176	KNAUS ET AL.	
	Examin r	Art Unit	
	Richard Schnizer, Ph. D	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *27 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-31 and 33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-31 and 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on *14 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 08/836,586.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Amendments were received on 7/15/03 and 8/27/03.

Claim 32 was canceled and claim 33 was added as requested.

Claims 1-31 and 33 are pending and under consideration in this Office Action.

Rejections Withdrawn

The rejection under 35 USC 112, second paragraph over the phrase "a substantial amount" is withdrawn in view of the specification at paragraph 52 which states "[f]or a substantial amount to be expelled, any remaining labeled compound in the cells is not enough to significantly interfere with the detection of the labeled product and is such that the diagnostic test results achieve the desired degree of accuracy or statistical significance."

Claim Objections

Claim 1 is objected to because it lacks a comma in step (b) immediately after " a labeled product".

Claim 3 is objected to because it fails to further limit claim1. Claim 3 requires that the protein expressed by the foreign gene of claim 1 must not be naturally expressed within the cells to which the gene is transferred. However, the specification at paragraph 73 defines a foreign gene as one that encodes a protein that does not naturally occur in the cells into which the gene is transferred.

A foreign gene is any gene which is not present in that exact or specific form in the population of cells in which the transference of the foreign gene is to be monitored. In other words, **a foreign gene is**

either not present at all in those cells or is present in the cells in a differing form such that the protein expressed by the foreign gene is not naturally expressed in those cells.

Emphasis added. Thus the foreign gene of claim 1 is defined in the specification as having the attributes recited in claim 3, and claim 3 does not further limit claim 1.

Claim 5 is objected to because it contains a space between "radio" and "labeled" in line 3 of the claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Written Description

Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1-8 are drawn to the genus of labeled compounds that can interact selectively with a protein expressed by a foreign gene to produce a labeled product that has a rate of or expulsion from the cell which is less than that of the labeled compound.

The specification teaches a variety of labeled compound, all of which are nucleoside analogs, e.g. 5-fluoro-2'-deoxyuridine which is an irreversible inhibitor of

thymidylate synthase, 5-fluorocytosine which is a substrate for cytosine deaminase, and various species of halogenated uridines that are substrates of thymidine kinases. The specification does not describe by structure any labeled compound that is not a nucleoside analog.

In order to provide an adequate written description of a genus of chemical compounds, one need not describe them by complete structure if a representative number of species is described by relevant identifying characteristics such as a correlation between structure and function. In this case the specification does not provide any general correlation between any particular structure of a labeled compound, or of a gene product capable of interacting with the genus of labeled compounds to provide the required labeled product. In view of the failure to disclose or describe any species of a labeled compound with the required characteristics that is not a nucleoside analog, or any foreign gene with the required characteristics that interacts with a compound that is not a nucleoside analog, one of skill in the art could not concluded that Applicant was in possession of the claimed genus at the time the invention was filed.

Claim 9 is not included in this rejection because the specification describes a representative number of species of the genus of labeled compounds that can interact with herpes simplex virus thymidine kinase.

Enablement

Claims 1-16, and 30, 31, and 33 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for *in vitro* methods of detecting gene transfer in a population of cells using (E)-5-(2-iodovinyl)-2'-deoxyuridine (IVDU) or IVDU-3' 1-methyl-1,4,dihydropyridyl-3-carbonyl (IVDU-CDS), does not reasonably provide enablement for *in vivo* methods of detecting gene transfer in a population of cells using IVDU or IVDU-CDS. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

In ex parte Forman, 230 USPQ 546 (bd. App. 1986) the board considered the issue of enablement in molecular biology and considered several factors. Consideration of these factors in the instant case follows.

Nature of the Invention

The inventions is a method of detecting gene transfer in a population of cells. In one embodiment the gene encodes a polypeptide capable of phosphorylating radiolabeled IVDU or IVDU-CDS, thereby sequestering IVDU or IVDU-CDS in cells containing the transferred gene. Non-phosphorylated IVDU and IVDU-CDS are not maintained within cells lacking an enzyme capable of phosphorylating these compounds. This allows non-invasive imaging of cells containing the delivered gene by, for example, scintigraphy detecting the location of radiolabeled IVDU or IVDU-CDS..

Breadth of the claims

The claims embrace both *in vivo* and *in vitro* methods.

State of the prior art, Predictability of the art, and Level of skill of those in the art

Prior to the time of the instant invention it was well known in the prior art that IVDU was unsuitable for in vivo administration and use in scintigrams because it was unstable and rapidly degraded to a variety of radioactive products that cause unacceptable background levels of radiation. See e.g. Iwashina et al (Appl. Radiat. Isot. 41(7): 675-678 (1990), page 675, column 2, lines 15-24, and Iwashina et al (Drug Design and Delivery (1988) 2(4): 309-321, sentence bridging pages 309 and 310). This is clear evidence that those of the highest skill in the art could not use IVDU for the purpose intended in the instant invention. Thus, while the art is predictable in this respect, the prediction is that the claimed invention would not function in the absence of further guidance not available in the art at the time of the invention. The art at the time of the invention also taught that it was unpredictable as to whether or not modification of IVDU with a 3' 1-methyl-1,4,dihydropyridyl-3-carbonyl moiety (IVDU-CDS) would result in stabilization and an improvement in specificity. Balzarini et al (Gene Therapy (7/1995) 2(5): 317-322) indicated that further study of CDS-modified IVDU was required to determine whether or not the modification had any effect on cellular delivery (see page 320, column 1, last sentence).

Guidance and working examples in the specification

The specification provides no working examples on the use of IVDU or IVDU-CDS in vivo for the detection of gene transfer, nor any guidance as to how to improve the stability and cellular specificity of either of these compounds without chemically altering the compounds themselves.

Amount of experimentation necessary

In view of the state of the art prior to the invention, the findings of those of skill in the art with respect to the in vivo lability of IVDU, the unpredictability of the in vivo lability of IVDU-CDS, and the lack of guidance and working examples in the specification, one of skill in the art would have to perform undue experimentation in order to use IVDU or IVDU-CDS in an *in vivo* gene delivery detection method as claimed.

Response to Arguments

Applicant's arguments filed 7/15/03 have been fully considered but they are not persuasive.

Applicant argues at pages 6-9 of the response that although IVDU is unstable in vivo, one of skill in the art could use it, or IVDU-CDS, merely by increasing the dosage to some appropriate level. For support Applicant relies on Samuel et al (1990) who show that the degradation in vivo of IVDU is time dependent. See Fig. 3 on page 322.

Fig. 3 of Samuel shows that 99% of IVDU is degraded by about 10 minutes after administration. The concentration of IVDU thereafter tends towards zero, and it appears that by 24 hours there was no detectable IVDU. In contrast, at 24 hours there was more than ten times as much labeled iodide present than there was labeled IVDU at about 15 minutes. The specification provides no guidance as to how to overcome this apparent background problem that was well recognized in the prior art and resulted in the findings of indications in the Iwashina references that IVDU is not suitable for in

vivo imaging due to its lability. Applicant's arguments that this can be overcome by a higher dosage are unpersuasive. Applicant has provided no evidence that an increased dose would not be degraded equally quickly, i.e. Applicant has not addressed the amount or kinetic characteristics of the enzymes that catalyze the degradation of IVDU in vivo. There is no evidence to suggest that an increased dose of IVDU would not simply result in a corresponding increase in background noise, and there is no evidence to suggest that phosphorylated IVDU will persist in cells long enough to ultimately be detected above the background.

For these reasons the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-13, 26, 27, and 30, 31 and 33 stand rejected under 35 U.S.C. 102(b) as being anticipated by Dougan (US Patent 5,248,771, issued 9/28/93).

Dougan teaches a diagnostic method for noninvasively detecting herpes virus infection. Selective uptake by infected cells of a radioactive (gamma ray emitting)

antiviral drug serves as a substrate for virus-coded thymidine kinase. The "trapped" phosphorylated radioactive antiviral compounds can then be visualized using gamma ray scintigraphy or PET imaging. The substrate drug may be the compound according to instant claim 13 wherein R1 = OH, R2 = H, R3 = H, and R4 = H (i.e. IVAU or IvaraU). See column 2, lines 20-30, and column 2, lines 49-63. The radiolabel may be ^{123}I or ^{131}I (see column 8, lines 26-29.

Instant claim 2 requires isolation of a foreign gene from a cell or a virus, wherein the foreign gene is transferred into a population of cells and subsequently serves to produce a protein that interacts with a labeled compound. Dougan teaches this aspect of the invention at column 15, lines 15-60. This section describes the infection of rabbits with herpes simplex virus comprising a thymidine kinase gene. Because herpes simplex virus must be produced in cells and isolated for use, the method of Dougan fairly suggests the isolation from cells of the Herpes virus, and thereby, the Herpes virus thymidine kinase gene.

Thus Dougan anticipates the claims.

Claims 1-11, 13, 14, and 30, 31 and 33 stand rejected under 35 U.S.C. 102(b) as being unpatentable over Gill et al (Antimicrob. Agents and Chemother. (1984) 25(4): 476-478).

Gill teaches a method of quantitative analysis of the uptake of ^{131}I-labeled IVDU in cells that had been transfected with herpes virus thymidine kinase (see abstract, and page 476, column 2, last paragraph).

It is noted that the claims require "determining the extent and location of the protein throughout the population of cells". Gill meets the "extent" limitation because the labeled product was quantified. Gill meets the "location" limitation because the assay was performed on a population of cells, and the labeled product was determined to be located in the cells.

Thus Gill anticipates the claims.

Claims 1-13, 18, 19, 30, 31 and 33 stand rejected under 35 U.S.C. 102(b) as being anticipated by Iwashina et al (Drug Design and Delivery (1988) 2(4): 309-321).

Iwashina teaches a method for noninvasive detection of herpes simplex encephalitis wherein radiolabeled IVFRU (instant claim 18) is administered to an animal, is acted on by herpes simplex thymidine kinase, the product is selectively trapped in cells, and detected by non-invasive means. The radiolabel may be ^{123}I. See abstract. With regard to instant claim 2, the method may be used in vitro on cells infected with TK+ herpes simplex virus. Such viruses, and their genes, are considered to be isolated from a cell prior to use, because viruses must be produced by infection and subsequent isolation from cells.

Thus Iwashina anticipates the claims.

Response to Arguments

Applicant's arguments filed 7/15/03 have been fully considered but they are not persuasive.

Applicant deals with the 102 rejections at pages 13-18 of the response.

The central points of Applicant's arguments are:

1) the cited references do not teach the selection of a foreign gene that has been isolated from a cell or virus,

2) the references deal with the monitoring or detection of the incorporation or uptake of a labeled compound, not a labeled product,

3) the monitoring or detection of incorporation of labeled compound does not indicate or determine the extent or location of the protein expressed by the foreign gene, and

4) because cited art deals with viral infection, there is no selection of a gene because all viral genes are expressed.

With regard to points 1) and 4), the claimed step of "selecting a foreign gene" has been broadly interpreted to be synonymous with the processes of identifying and taking advantage of a foreign gene. The claim limitation of isolating a gene from a cell has been interpreted to include the process of removing a gene from a cell. This clearly embraces removing viral genes from a cell by removing the virus from the cell. Applicant has not pointed to any limiting definition in the specification that would exclude either of these interpretations, so they are considered proper. Further, Applicant has not pointed to any place in the specification that would exclude delivering and expressing other viral genes along with the HSV TK.

With regard to point 2), (the incorrect allegation that the references deal with the monitoring or detection of the incorporation or uptake of a labeled compound, not a

labeled product), the concept of trapping a radiolabeled nucleoside analog by phosphorylation of the analog by herpes virus thymidine kinase was known in the prior art even before the publication date of any of the cited references. Iwashina attributes this concept to two articles published in 1980 and 1981 (references 9 and 10 cited by Iwashina). Dougan, in reviewing the prior art, discusses the process of trapping radiolabeled nucleoside analogs by the activity of HSV TK for non-invasive imaging. See column 2, lines 28-36. Each of the cited references deal with detection of a radioactive label. It is clear that those of ordinary skill in the art at the time of the invention understood that the HSV TK activity trapped radiolabeled nucleoside analogs in cells by phosphorylation, and that the detected label was affixed to a phosphorylated product and not to the unphosphorylated substrate. In any case, it is inherent in each of the cited methods that the measured label must be the phosphorylated product, and not the compound, because each method involves a delay of at least 4 hours and as long as 2 days between administration of the radioactive nucleoside analog and detection of the label, allowing time for trapping (i.e. phosphorylation) by HSV TK. Thus each method allows for detection of expression of thymidine kinase. See e.g. Gill at page 476, column 2, lines 15-20 of fourth paragraph; abstract of Iwashina; and column 14, lines 30-34 of Dougan. Note that the instant specification exemplifies a delay of 8 hours between nucleoside administration and detection. See page 49, lines 22-24.

Applicants assertion (item 3, above) that the monitoring or detection of incorporation of labeled compound does not indicate or determine the extent or location of the protein expressed by the foreign gene is unsupported. In each case the intensity

and distribution of the radiation detected are indicative of the amount and distribution of the thymidine kinase. Applicant has not presented any reasoning or evidence to show that this is not so.

For these reasons the rejections are maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4, 5, 7-10, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill et al (Antimicrob. Agents and Chemother. (1984) 25(4): 476-478) in view of Dougan (US Patent 5,248,771, issued 9/28/93).

Note that this rejection is identical to rejection of claim 15 set forth in the previous action. For clarity, all of the claims from which claim 15 depends have been listed, rather than just claim 15.

Gill teaches an *in vitro* method of quantitative analysis of the uptake of ^{131}I-labeled IVDU in cells that had been transfected with herpes virus thymidine kinase (see abstract).

It is noted that the claims require "determining the extent and location of the protein throughout the population of cells". Gill meets the "extent" limitation because

the labeled product was quantified. Gill meets the "location" limitation because the assay was performed on a population of cells, and the labeled product was determined to be located in the cells.

Gill does not teach ^{123}I labeled IVDU.

Dougan teaches a method of labeling synthetic substrates for detection of herpes virus thymidine kinase, and suggests the use of either ^{123}I or ^{131}I (see column 8, lines 26-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute an ^{123}I label for an ^{131}I in the method of Gill because these labels are obvious equivalents in that they would function similarly in the method, i.e. they would allow scanning and quantification of cellular uptake of IVDU as suggested by Gill at page 476, column 1, last sentence. MPEP 2144.07 indicates that the selection of a known material based on its suitability for its intended use supports the determination of *prima facie* obviousness. See also Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

Thus the invention as a whole was prima facie obvious.

Claims 1, 4, 5, 7-10, 13, 14-25, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dougan (US Patent 5,248,771, issued 9/28/93) in view of Balzarini et al (Gene Therapy (7/1995) 2(5): 317-322).

Note that this rejection is identical to rejection of claims 14-25, 28 and 29 set forth in the previous action. For clarity, all of the claims from which claims 14-25, 28 and 29 depend have been listed, rather than just claims 14-25, 28 and 29.

Dougan teaches a diagnostic method for detecting herpes virus infection. Selective uptake by infected cells of a radioactive (gamma ray emitting) antiviral drug serves as a substrate for virus-coded thymidine kinase. The "trapped" phosphorylated radioactive antiviral compounds can then be visualized using gamma ray scintigraphy or PET imaging. The substrate drug may be the compound according to instant claim 13 wherein R1 = OH, R2 = H, R3 = H, and R4 = H (i.e. IVAU or IvaraU). See column 2, lines 20-30, and column 2, lines 49-63. The radiolabel may be ^{123}I or ^{131}I (see column 8, lines 26-29. The method may be performed in vitro. See column 13, lines 14-62.

Dougan does not teach the use of IVDU (instant claims 14 and 15), IVDU-CDS (instant claims 16 and 17), IVFRU (instant claims 18 and 19), IVFRU-CDS (instant claims 20 and 21), IVFAU (instant claims 22 and 23), or IVFAU-CDS (instant claims 24 and 25).

Balzarini teaches IVDU, IVDU-CDS, IVFRU, IVFRU-CDS, IVFAU, and IVFAU-CDS, and shows that these compounds are acted on by herpes virus thymidine kinase to produce cytostatic agents. See abstract.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide radiolabeled versions of the compounds of Balzarini, as taught by Dougan, and to substitute these for IVAU in the invention of Dougan. One would have been motivated to do so because IVDU-CDS, IVFRU, IVFRU-CDS, IVFAU, and IVFAU-

CDS are obvious equivalents of IVAU in that they would reasonably be expected to function similarly in the method of Dougan, i.e. they would be phosphorylated by TK and entrapped in the target cells thereby allowing non-invasive detection of a radioactive label. MPEP 2144.07 indicates that the selection of a known material based on its suitability for its intended use supports the determination of *prima facie* obviousness. See also Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

Thus the invention as a whole was *prima facie* obvious.

Response to Arguments

Applicant's arguments filed 7/15/03 have been fully considered but they are not persuasive.

At page 18 of the response Applicant addresses the rejection of claim 15, arguing that neither Gill nor Dougan teaches the detection of the "presence of an isolated foreign protein". This is not persuasive because the claims require no such step. In any event the method of Gill certainly teaches the detection of the HSV TK protein by detecting its kinase activity, i.e. by detecting the phosphorylated (trapped) radioactive nucleoside analog.

At page 19 of the response Applicant addresses the rejection of claim 15, arguing that Dougan's method does not anticipate imaging or monitoring the transfer of a selected foreign gene. This argument is based on an interpretation of the claim in which viral HSV TK is not considered to be a selected, isolated gene. This argument is

unpersuasive because, as discussed above, Applicant has failed to show where the specification excludes HSV TK contained within a virus from the genus of genes isolated from cells. Applicant teaches the detection of the "presence of an isolated foreign protein". Applicant further argues that Dougan measures the labeled "compound" rather than the labeled "product". This is incorrect for the reasons set forth above, i.e. it is inherent that Dougan is measuring labeled product because Dougan is identifying herpes virus infected cells by virtue of the fact that these cells trap the nucleoside analog by TK phosphorylation.

For these reasons the rejections are maintained.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner(s) should be directed to Richard Schnizer, whose telephone number is 703-306-5441. The examiner can normally be reached Monday through Friday between the hours of 6:20 AM and 3:50 PM. The examiner is off on alternate Fridays, but is sometimes in the office anyway.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Leguyader, can be reached at 703-308-0447. The FAX numbers for art unit 1632 are 703-308-4242, and 703-305-3014. Additionally correspondence can be transmitted to the following RIGHTFAX numbers: 703-872-9306 for correspondence before final rejection, and 703-872-9307 for correspondence after final rejection.

Inquiries of a general nature or relating to the status of the application should be directed to the Patent Analyst Trina Turner whose telephone number is 703-305-3413.

Richard Schnizer, Ph.D.